

BOIES, SCHILLER & FLEXNER LLP
WILLIAM A. ISAACSON (*pro hac vice*)
5301 Wisconsin Ave. NW, Suite 800
Washington, D.C. 20015
Telephone: (202) 237-2727
Facsimile: (202) 237-6131
Email: wisaacson@bsflp.com

BOIES, SCHILLER & FLEXNER LLP
JOHN F. COVE, JR. (CA Bar No. 212213)
DAVID W. SHAPIRO (CA Bar No. 219265)
KEVIN J. BARRY (CA Bar No. 229748)
1999 Harrison St., Suite 900
Oakland, CA 94612
Telephone: (510) 874-1000
Facsimile: (510) 874-1460
Email: jcove@bsflp.com
dshapiro@bsflp.com
kbarry@bsflp.com

Attorneys for Plaintiff Jordan Walker
Interim Class Counsel for Direct Purchaser Plaintiffs

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

IN RE GRAPHICS PROCESSING UNITS
ANTITRUST LITIGATION

This Document Relates to:
ALL DIRECT PURCHASER ACTIONS

) Case No.: M:07-CV-01826-WHA

) MDL No. 1826

) **CONSOLIDATED AND AMENDED**
) **CLASS ACTION COMPLAINT FOR**
) **VIOLATION OF SECTION 1 OF THE**
) **SHERMAN ACT, 15 U.S.C. § 1**

) **JURY TRIAL DEMANDED**

1 Plaintiffs Jordan Walker, Michael Bensignor, d/b/a Mike's Computer Services, and Fred
2 Williams, on behalf of themselves and all others similarly situated in the United States, bring this
3 action for damages and injunctive relief under the federal antitrust laws against Defendants
4 named herein, demanding trial by jury, and complaining and alleging as follows:

5 **NATURE OF THE CASE**

6 1. This lawsuit is brought as a class action on behalf of individuals and entities that
7 purchased "Graphics Processing Units and Cards" ("GPU" or "GPUs") (as further defined below)
8 in the United States directly from Defendants, their predecessors, or their controlled subsidiaries
9 and affiliates during the period beginning December 4, 2002 and continuing through the present
10 (the "Class Period"). Defendants Nvidia Corporation ("Nvidia") and ATI Technologies, Inc.
11 ("ATI") control the market for GPU.

12 2. During the Class Period, Defendants Nvidia and ATI conducted numerous secret
13 meetings and communications in which they conspired to fix, raise, maintain and stabilize prices
14 of GPUs sold in the United States. At these meetings, Defendants also colluded to coordinate the
15 timing of new product introductions that were based on similar, competing technologies which
16 also had the effect of fixing, raising, maintaining, and stabilizing GPU prices. Advanced Micro
17 Devices, Inc. ("AMD"), which finalized its acquisition of ATI on October 25, 2006, participated
18 in this conspiracy as a successor in interest to ATI for the period preceding the acquisition and
19 through its operation of ATI in the period following the acquisition.

20 3. A federal grand jury is currently conducting an investigation of Defendants'
21 conduct as alleged in this Complaint and has issued grand jury subpoenas to Defendants Nvidia
22 and AMD in connection with that investigation. The economic evidence also supports the
23 specific conspiratorial agreement that is under investigation and that is being alleged in this
24 Complaint and is inconsistent with independent competitive conduct. In particular, the structure
25 of the relevant market and economic data on pricing and supply illustrate that this market has not
26 functioned as would be expected of a competitive market during the Class Period.

27 4. Because of the unlawful price-fixing and other conspiratorial conduct alleged
28 herein, Plaintiffs and other Class members paid artificially inflated prices for GPUs and have

1 suffered antitrust injury to their business or property.

2 **JURISDICTION AND VENUE**

3 5. Plaintiffs bring this action to obtain injunctive relief and to recover damages,
4 including treble damages, costs of suit and reasonable attorneys' fees, premised on Defendants'
5 violation of the Sherman Act, 15 U.S.C. § 1.

6 6. The Court has jurisdiction over the subject matter of this action pursuant to
7 Sections 4(a) and 16 of the Clayton Act, 15 U.S.C. §§ 15 and 26, and 28 U.S.C. §§ 1331 and
8 1337. Venue is proper in this district pursuant to Section 12 of the Clayton Act, 15 U.S.C. §§ 22,
9 and 28 U.S.C. §§ 1391(b), (c) and (d) because a substantial part of the events giving rise to
10 Plaintiffs' claims occurred in this District, a substantial portion of the affected interstate trade and
11 commerce discussed below has been carried out in this District, and one or more of the
12 Defendants reside in this District.

13 7. As used herein, the term "Graphics Processing Units and Cards" (hereinafter
14 "GPU" or "GPUs") includes all types of GPUs used in discrete graphics cards and sold during the
15 Class Period. Discrete graphics cards are those that have their own dedicated memory. In
16 contrast, integrated graphics cards are inserted directly into the computer's motherboard chipset
17 and typically use the random access memory ("RAM") of the computer.

18 8. A GPU (also sometimes known as a visual processing unit, or VPU) is a dedicated
19 graphics rendering device for computers, workstations, servers, game consoles, and mobile
20 devices, including handheld personal digital assistants (referred to as PDAs) or cellular
21 telephones. A GPU consists of a highly specialized semiconductor and related components that
22 increase the speed, complexity, and visual fidelity of digital images that can be displayed on
23 graphical interfaces, such as computer monitors.

24 9. Modern GPUs are very efficient at manipulating and displaying computer
25 graphics, and their highly parallel structure makes them more effective than typical Central
26 Processing Units ("CPUs") for a range of complex algorithms. Modern GPUs provide support for
27 3D computer graphics, and typically include digital video-related functions as well.

1 Markham, Ontario, Canada L3T 7X6. During the time period covered by this Complaint, ATI
2 manufactured, marketed, sold and distributed GPUs to customers throughout the United States.
3 ATI earned \$2.222 billion in revenues in 2005.

4 18. Defendant Advanced Micro Devices, Inc. ("AMD") is a business entity organized
5 under the laws of Delaware with its principal place of business located at One AMD Place, P.O.
6 Box 3453, Sunnyvale, California 94088-3453. On July 24, 2006, AMD and ATI announced a
7 plan to merge in a deal valued at \$5.4 billion. The merger closed October 25, 2006. The
8 acquisition consideration included over \$2 billion financed from a loan, as well as 56 million
9 shares of AMD stock. As part of that acquisition, AMD assumed existing liabilities of ATI.
10 AMD is also responsible for any unlawful conduct perpetrated by ATI since the acquisition.
11 After its acquisition of ATI, AMD manufactured, marketed, sold and distributed GPUs to
12 customers throughout the United States.

13 **CO-CONSPIRATORS**

14 19. Various other persons, firms and corporations, not named as Defendants herein,
15 and presently unknown to Plaintiffs, have participated as co-conspirators with Defendants and
16 have performed acts and made statements in furtherance of the conspiracy and/or in furtherance
17 of the anticompetitive, unfair or deceptive conduct.

18 20. Whenever in this Complaint reference is made to any act, deed or transaction of
19 any corporation, the allegation means that the corporation engaged in the act, deed or transaction
20 by or through its officers, directors, agents, employees, or representatives while they were
21 actively engaged in the management, direction, control, or transaction of the corporation's
22 business or affairs.

23 **INTERSTATE TRADE AND COMMERCE**

24 21. Throughout the Class Period, there was a continuous and uninterrupted flow of
25 GPU sales in interstate and international commerce throughout the United States.

26 22. Defendants' unlawful activities, as described herein, took place within the flow of
27 interstate commerce, as well as throughout the world, and had a direct, substantial and reasonably
28 foreseeable effect upon interstate and international commerce, including the United States GPU

1 market.

2 **CLASS ACTION ALLEGATIONS**

3 23. Plaintiffs bring this action on behalf of themselves and a class of all others
4 similarly situated, pursuant to Federal Rules of Civil Procedure 23(a), 23(b)(2) and 23(b)(3) on
5 behalf of all members of the following class (the "Class"):

6 All persons and entities who, during the period December 4, 2002 to the
7 present, purchased GPU in the United States directly from Defendants or
8 any subsidiaries or affiliates thereof. Excluded from the Class are
9 Defendants, their parent companies, subsidiaries and affiliates, any co-
10 conspirators, and all governmental entities.

11 24. This action has been brought and may properly be maintained as a class action
12 pursuant to Rule 23 of the Federal Rules of Civil Procedure for the following reasons:

13 a. The Class is ascertainable and there is a well-defined community of
14 interest among members of the Class;

15 b. Based upon the nature of trade and commerce involved and the
16 number of direct purchasers of GPUs, Plaintiffs believe that the members of the
17 Class number in the hundreds or thousands, and therefore are sufficiently
18 numerous that joinder of all Class members is not practicable;

19 c. Plaintiffs' claims are typical of the claims of the members of the
20 Class because Plaintiffs directly purchased GPUs manufactured by one or more of
21 the Defendants or their co-conspirators, and therefore Plaintiffs' claims arise from
22 the same common course of conduct giving rise to the claims of the members of
23 the Class and the relief sought is common to the Class;

24 d. The following common questions of law or fact, among others,
25 exist as to the members of the Class:

26 i. Whether Defendants formed and operated a combination or
27 conspiracy to fix, raise, maintain, or stabilize GPU prices;
28

1 ii. Whether the combination or conspiracy caused GPU prices
2 to be higher than they would have been in the absence of Defendants'
3 conduct;

4 iii. The operative time period of Defendants' combination or
5 conspiracy;

6 iv. Whether Defendants' conduct caused injury to the business
7 or property of Plaintiffs and the members of the Class;

8 v. The appropriate measure of the amount of damages suffered
9 by the Class;

10 vi. Whether Defendants' conduct violates Section 1 of the
11 Sherman Act; and

12 vii. The appropriate nature of class-wide equitable relief.

13 e. These and other questions of law and fact common to the members
14 of the Class predominate over any questions affecting only individual members,
15 including legal and factual issues relating to liability and damages;

16 f. Plaintiffs will fairly and adequately protect the interests of the Class
17 in that Plaintiffs have no interests that are antagonistic to other members of the
18 Class and have retained counsel competent and experienced in the prosecution of
19 class actions and antitrust litigation to represent them and the Class;

20 g. A class action is superior to other available methods for the fair and
21 efficient adjudication of this litigation since individual joinder of all damaged
22 Class members is impractical. The damages suffered by the individual Class
23 members are relatively small, given the expense and burden of individual
24 prosecution of the claims asserted in this litigation. Thus, absent the availability of
25 class action procedures it would not be feasible for Class members to redress the
26 wrongs done to them. Even if the Class members could afford individual
27 litigation, the court system could not. Further, individual litigation presents the
28 potential for inconsistent or contradictory judgments and would greatly magnify

1 the delay and expense to all parties and the court system. Therefore, the class
2 action device presents far fewer case management difficulties and will provide the
3 benefits of unitary adjudication, economy of scale, and comprehensive supervision
4 in a single court;

5 h. Defendants have acted, and/or refused to act, on grounds generally
6 applicable to the Class, thereby making appropriate final injunctive relief with
7 respect to the Class as a whole; and

8 i. In the absence of a class action, Defendants would be unjustly
9 enriched because they would be able to retain the benefits and fruits of their
10 wrongful conduct.

11 **FACTUAL ALLEGATIONS**

12 25. During the Class Period, Defendants and their co-conspirators engaged in the
13 business of marketing and selling GPUs throughout the United States.

14 26. Defendant Nvidia is a worldwide leader in programmable graphics processor
15 technologies. According to its website, Nvidia has four major product-line operating segments:
16 the graphics processing unit, or GPU, Business; the media and communications processor, or
17 MCP, Business; the Handheld GPU Business; and the Consumer Electronics Business.

18 27. Nvidia's GPU Business is composed of products that support desktop personal
19 computers, notebook PCs, and professional workstations. Its MCP Business includes NVIDIA
20 nForce products that operate as a single chip or chipset that can off-load system functions, such as
21 audio processing and network communications, and perform these operations independently from
22 the host CPU. The Handheld GPU Business includes products used in handheld personal digital
23 assistants, cellular phones and other handheld devices. Finally, the Consumer Electronics
24 Business concentrates on products used in video game consoles and other digital consumer
25 electronic devices including Sony's Playstation3 videogame consoles.

26 28. The world's leading PC and Handset OEMs (Original Equipment Manufacturers)
27 incorporate Nvidia's technology into their products, including Apple, Dell, Fujitsu Siemens,
28 Gateway, HP, IBM, Lenovo, LG, Medion, Mitsubishi, Motorola, MPC, NEC, Samsung, Sony

1 Electronics, Sony Ericsson, and Toshiba. System builders such as Alienware, Falcon Northwest,
2 HCL, SAHARA and Shuttle also use Nvidia GPUs in their products. Similarly, Nvidia's
3 products have been adopted by the world's leading add-in card and motherboard manufacturers,
4 including ASUS, BFG, EVGA, GIGABYTE, MSI, Palit, Point of View and XFX.

5 29. Defendant ATI is also a world leader in the manufacture and development of GPU.
6 Like Nvidia, ATI's GPUs are found in desktop and notebook computers and consumer electronic
7 devices. ATI's computer products include all 3D graphics, video and multimedia products, and
8 chipsets developed for use in desktop and notebook computers, including professional
9 workstations, servers and home media PCs. Its consumer electronics products include products
10 used in mobile phones, PDAs, digital televisions and game consoles.

11 30. ATI sells its products through various channels. It sells to OEMs and system
12 integrators who build ATI's products into their PCs. It sells to original design manufacturers who
13 add ATI's products to their PC motherboard products or graphic board products. It also sells to
14 traditional and online distributors and retailers, as well as directly to consumers.

15 **I. Defendants' Agreement To Restrain Trade**

16 31. Defendants ATI and Nvidia have engaged in a series of secret meetings and
17 communications in which they restrained trade by (1) agreeing to reduce competition with each
18 other in order to maintain and increase their margins; (2) agreeing to fix prices; and (3)
19 coordinating the timing of when similar products were introduced into the market.

20 32. As a result of these meetings, on many occasions throughout the Class Period, ATI
21 and Nvidia agreed to set the price for their GPU products, and coordinate when these products
22 would be introduced into the market. By agreeing on the price of the product and the timing of
23 the product launch, ATI and Nvidia were able to, and did in fact, inflate the prices of GPUs
24 charged to Plaintiffs and Class members during the Class Period.

25 **A. The DOJ Investigation**

26 33. Plaintiffs' allegations of collusion are supported by the existence of a criminal
27 investigation by the U.S. Department of Justice ("DOJ") into these allegations, which has been
28 ongoing for over six months.

1 34. On November 30, 2006, AMD announced that it had “received a subpoena from
2 the U.S. Department of Justice Antitrust Division in connection with the DOJ’s investigation into
3 potential antitrust violations related to graphics processors and cards.”

4 35. On November 30, 2006, Nvidia announced that it had “received a subpoena from
5 the San Francisco Office of the Antitrust Division of the DOJ in connection with the latter’s
6 investigation into potential antitrust violations related to Graphics Processing Units and Cards.”
7 One report indicated: “[t]he Department of Justice investigators asked Nvidia for pricing
8 documents, customer agreements and other documents, company spokesman Michael Hara said
9 Friday. ‘They have asked for a pretty big data dump that goes back to the late ‘90s,’ Hara said.
10 ‘It’s a fairly broad request.’”

11 36. On December 4, 2006, it was reported that “The US Department of Justice
12 subpoenaed Defendants for information as to possible price fixing in the graphic chip industry.”

13 37. In a subsequent filing with the Securities and Exchange Commission, AMD
14 confirmed that the investigation conducted by DOJ is a criminal one. This fact is significant
15 because, according to Chapter III, Section C.5 of the DOJ’s *Antitrust Division Manual*, “[c]urrent
16 Division policy is to proceed by criminal investigation and prosecution in cases involving
17 horizontal, *per se* unlawful agreements such as price-fixing, bid rigging and horizontal customer
18 and territorial allocations.”

19 38. Despite the passage of time, and despite the fact that Defendants Nvidia and AMD
20 are public companies, neither Defendant has denied the allegations of anticompetitive meetings or
21 stated that there was no plausible basis for the investigation being undertaken.

22 39. Moreover, neither Defendant has stated that they have conducted an internal
23 investigation which exonerated them or found that the criminal grand jury investigation was
24 launched for implausible reasons.

25 **B. Communications and Coordination Among Defendants**

26 40. The consumer electronics and personal computer industries, and industries that
27 manufacture components for these products, are ordinarily intensely competitive (with certain
28 notable exceptions). Participants compete intensely both on price and on innovation.

1 41. In these industries, the price of products and the components of these products
2 typically fall after a new technology is introduced, as competition intensifies and manufacturers
3 begin to capture efficiencies based on experience, and on scope and scale.

4 42. Suppliers also compete vigorously on innovation, with each supplier racing to lead
5 the market in new features and capabilities and improved performance and speed. In the PC
6 industry, this drive to innovate and to compete on price is generally present, even where the
7 sector is considered a duopoly, such as the rivalry between Intel and AMD in CPUs.

8 43. As a result of the collusive arrangements between Defendants in this case, this
9 competitive dynamic has been lacking in GPUs. The results have been high prices and lethargic
10 innovation and competition as both parties stick to these agreements. Defendants have kept
11 prices high and moderated competition in innovation by agreeing on product release schedules in
12 order to reduce the research and development (“R&D”) funds they would spend if competition
13 were unrestrained.

14 44. In short, in a competitive GPU market operating free of collusion, it would not be
15 expected that rivals would introduce their new products at similar times and at identical prices, as
16 alleged herein. One reason for this is that GPU design is a complex and extremely expensive
17 proposition. Many workers’ hours and capital expenditures are used in R&D of new
18 technologies.

19 45. At any point in the R&D process, numerous incidents can delay, halt, or speed up
20 the process. In a competitive market, firms would rush to release a new generation product
21 significantly ahead of a competitor in order to capture sales. This kind of accelerated R&D
22 typically entails greater expenses than R&D that takes place at a more leisurely pace, but is
23 generally considered necessary to stay ahead, or at least not fall behind in competitive technology
24 industries. Because of the advantages that can accrue to the first-to-market or the superior
25 technology, even duopolists have a greater incentive to innovate than in more static industries.

26 46. Defendants’ behavior is contrary to how firms would be expected to operate in a
27 competitive market, and is indicative of collusion. Engaging in such behavior would be against
28 each defendant’s individual self-interest absent an agreement to fix prices and limit competition.

1 However, if defendants were colluding, then engaging in such behavior would be profitable and
2 in defendants' mutual interest.

3 47. Moreover, this behavior is even more unusual and suspect because on virtually
4 every occasion (further described below) it closely followed when representatives of Nvidia and
5 ATI were meeting together at various industry trade association conferences and events.
6 Nvidia and ATI's coordinated product releases at the same time and the same prices following
7 meetings between the companies are contrary to the history of competition in the consumer
8 electronics and personal computer industry and were done without any plausible rationale for
9 such coordination.

10 **1. Communications and Coordination in 2003 and 2004**

11 48. In the spring and summer of 2003, pursuant to the conspiracy alleged herein, ATI
12 and Nvidia slowed the pace at which they released new GPU products and coordinated the pricing
13 of these new products.

14 49. The slowdown was intended to limit price competition on new products, to raise
15 prices on existing products, to reduce research and development expenses, and to improve the
16 profit margins of both companies.

17 50. These agreements to conspire on product introductions and pricing coincided, at
18 least in part, with when representatives of both companies attending certain industry trade
19 association conferences and events together.

20 51. On March 4-8, 2003, executives of ATI and Nvidia attended the Game Developers
21 Conference in San Jose, California.

22 52. Executives of ATI and Nvidia have been on the board of PCI-SIG, which is a trade
23 association that develops and manages peripheral component interconnect ("PCI"). PCI is
24 technology that delivers input/output ("I/O") functionality for computers by connecting various
25 chips, adapter cards, and device drivers within a computer system. Beginning in at least 2005,
26 executives of ATI and Nvidia have been on the Board of Directors of PCI-SIG.

27 53. On June 2-3, 2003, PCI-SIG held its 2003 Game Developers Conference. On June
28 2-3, 2003 and again in August 2003, representatives of ATI and Nvidia both attended broader

1 PCI-SIG meetings. The June meeting was held at the San Jose McEnery Convention Center in
2 San Jose, California. The August meeting was conducted in Milpitas, California.

3 54. Following these meetings, ATI and Nvidia delayed the launch of two new
4 competing products that the industry expected to be introduced that year. ATI and Nvidia
5 delayed the launch of those products in tandem until 2004 at which point the launch was made at
6 an identical retail price point.

7 55. Specifically, Nvidia announced in October of 2003 that it was postponing the
8 introduction of its NV40 graphics technology. At the same time, ATI announced it was
9 postponing the introduction of its R400 graphics technology, which would have directly
10 competed with Nvidia's NV40 graphics technology. Although either party could have pushed
11 forward in an effort to get the jump on the other, the parties did not accelerate past one another
12 and proceeded with a coordinated launch of the new products.

13 56. Representatives of ATI and Nvidia attended the February 23-26, 2004 3GSM
14 World Congress conference in Cannes, France.

15 57. On March 22-26, 2004, ATI and Nvidia attended the 2004 Game Developers
16 Conference in San Jose, California.

17 58. Then during 2004, ATI and Nvidia jointly introduced the new technologies that
18 had been jointly postponed in October 2003 at the same price.

19 59. These agreements were facilitated by other practices. For instance, in 2004, ATI
20 posted on its website a draft presentation marked as "Confidential" prepared by one of its
21 executives that detailed future product development. The presentation contained internal notes by
22 the presenter that commented on ATI's strategies, including some of those relating to Nvidia.

23 60. As a result, Nvidia and ATI released both of their new, competing technologies
24 within just a few weeks of each other in April and May of 2004. ATI's product, using its new
25 R400 graphics technology, was named the Radeon X800 Pro, and Nvidia's product, using its new
26 NV40 graphics technology, was named the GeForce 6800 GT.

27 61. This was the first time in history that Nvidia and ATI had ever released next-
28 generation competing technologies so close to one another.

1 62. Both competing products were introduced into the market at the exact same retail
2 price - \$399.

3 63. Throughout 2004, ATI and Nvidia timed the introduction and pricing of other
4 products following meetings between these Defendants.

5 64. Representatives of Nvidia and ATI attended the June 15, 2004 PSI-SIG annual
6 meeting which was held in San Jose California.

7 65. On August 12, 2004, Nvidia announced the release of the GeForce 6600 GT at a
8 retail price of \$199; this product was matched by ATI's Radeon X600 XT, which was priced at
9 \$199 as well.

10 **2. Communications and Coordination in 2005**

11 66. On March 7-11, 2005, representatives of Nvidia and ATI both attended the Game
12 Developers Conference, which was held in San Francisco, California.

13 67. In April 2005 and June 2005, while Nvidia and ATI were on the board of PCI-SIG,
14 they were "platinum sponsors" of PCI-SIG conferences. In the second and third weeks of April
15 PCI-SIG conferences were held in Beijing, China; Tokyo, Japan; and Taipei, Taiwan. In the first
16 week of June a PCI-SIG conference was held in San Jose, California. Following these meetings,
17 ATI and Nvidia coordinated the pricing of new GPU products that were being introduced into the
18 market.

19 68. In July 2005, Nvidia released its GeForce 6200 GT with 256 MB of double data
20 rate ("DDR") memory and 8X AGP at a price of \$140. This came on the heels of ATI's
21 introduction in April 2005 of the Radeon 9550, which also featured 256 MB DDR memory and
22 8X AGP, and was also priced at \$140.

23 69. Representatives of Nvidia and ATI also attended the SIGGRAPH conference in
24 Los Angeles, California from July 31 to August 4, 2005, which was an international conference
25 focused on computer graphics and interactive technologies.

26 70. Representatives of Nvidia and ATI also attended the Game Developers
27 Conference in London, England from August 30 to September 1, 2005.
28

1 71. Following these meetings in July and August of 2005, ATI and Nvidia again
2 engaged in product launches during the same time period and at the same prices.

3 72. In September of 2005, ATI announced the release of its CrossFire graphic cards,
4 including the Radeon X800 XL CrossFire and the Radeon X800 CrossFire with suggested retail
5 prices of \$299 and \$199, respectively. At the same time, Nvidia released comparable products,
6 the GeForce 6800 GT and GeForce 6800, with respective retail prices of \$299 and \$199, as well.

7 **3. Communications and Coordination in 2006**

8 73. On March 20-24, 2006, representatives of Nvidia and ATI both attended the Game
9 Developers Conference, which was held in San Jose, California.

10 74. Also in March, 2006, executives from ATI and Nvidia attended the Fabless
11 Semiconductor Association ("FSA") Global Leadership Summit in Shanghai, China.

12 75. Following these conferences in March of 2006, ATI and Nvidia again announced
13 new GPU products within the same time period and at the same price.

14 76. Nvidia released its GeForce 7600GT, with 256 MB of DDR Memory and a 16X
15 PCIe, on May 5, 2006 at a price of about \$175. Just two weeks earlier, on April 24, 2006, ATI
16 released the Radeon X1600, which also had 256 MB of DDR memory and a 16X PCIe, at the
17 price of about \$175.

18 77. Meetings between Nvidia and ATI continued further into 2006. On June 11-14,
19 2006, representatives of Nvidia and ATI both attended the Develop 2006 Conference in Brighton,
20 England.

21 78. On July 30, 2006 to August 3, 2006, representatives of Nvidia and ATI both
22 attended and made presentations at the SIGGRAPH 2006 Conference in Boston, Massachusetts.

23 79. On August 30, 2006 to September 1, 2006, representatives of Nvidia and ATI both
24 attended and made presentations at the Computer Entertainment Software Association Developers
25 Conference in Tokyo, Japan.

26 80. In furtherance of the conspiracy, Nvidia released its GeForce 7950 GT on
27 September 14, 2006, and ATI released its Radeon X1950 Pro on October 17, 2006. The prices, as
28

1 quoted by online retailer Newegg.com, were \$269.99 for each graphics card. The features were
2 virtually identical.

3 81. In addition, ATI released its Radeon X1650 Pro in September of 2006 for a price
4 of about \$220. Nvidia also released its GeForce 7900 GS in September of 2006 for a price of
5 about \$200. Again, the features of these products were virtually identical.

6 **C. Industry Analysis Reports**

7 82. Public statements from industry analysts made after the DOJ investigation was
8 announced support the plausibility of Plaintiffs' allegations of collusive pricing behavior among
9 defendants.

10 83. One commentator has compared the DOJ's investigation of the GPU industry to its
11 successful prosecution of manufacturers of Dynamic Random Access Memory ("DRAM"), which
12 has resulted in \$731 million in criminal fines. In an interview with Computerworld, an industry
13 analyst stated, "If the DOJ wanted to, it could just go down every line in the semiconductor
14 industry and find the same issue. That's because there are a relatively few number of suppliers in
15 the chip industry and an open flow of communication between competitors and customers, who
16 may not define price fixing the same way the DOJ does."

17 84. Another industry analyst expressed similar sentiments in an article in the San
18 Francisco Chronicle: "I am not surprised that (the Justice Department) is looking into this as
19 there are few suppliers left, which aggregates pricing power."

20 85. The San Jose Mercury News quoted yet another industry analyst as saying, "As a
21 consumer, I have noticed that the price points of video cards have always been pretty equal. The
22 first mover comes out with a product that is \$500 and the follower comes out with a product that
23 is \$500. They tend not to be in price wars."

24 86. In addition, even prior to the announcement of DOJ's investigation, industry
25 sources had reported collusion in the GPU market. For example, the website inquirer.net reported
26 that, "Rather than battle each other hammer and tongs, sources claim that ATI and Nvidia have
27 recently had meetings in an effort to put the brakes on the speed at which new graphics products
28 are released." This article went on to state that sources claimed both companies had grown weary

1 of high R&D costs, the high cost of producing, and low margins, which led them to “huddle
2 together in secret conclaves to see what can be done and balance the financial books that little bit
3 better.”

4 **II. Market Structure and Economic Data**

5 87. The relevant economic evidence, including data on GPU pricing and supply,
6 further buttress the allegations of an illegal agreement to fix, raise, maintain, and stabilize prices
7 of GPUs sold in the United States, and to coordinate the timing of new product introductions.

8 **A. Structure of the GPU Market**

9 88. The structure of the GPU market is conducive to a secret price fixing agreement,
10 and has made collusion particularly attractive in this specific market.

11 89. The GPU market is highly concentrated and has become even more so during the
12 course of the Class Period because of significant consolidation among industry participants. In
13 addition, many smaller firms in the market have lost market share and left the market altogether.

14 90. At present, this market is essentially a two supplier business, with Nvidia holding
15 approximately a 53% market share and AMD (through ATI) holding approximately a 47% market
16 share.

17 91. The existence of excess capacity is another factor that makes collusion attractive in
18 the GPU market. Both ATI and Nvidia operate as “fabless” manufacturers, meaning they both
19 outsource the production of GPUs and other components as well as the assembly and packaging
20 of the finished product. This allows the companies to avoid significant costs and risks associated
21 with operating manufacturing facilities. Additionally, these companies outsource supply among
22 multiple manufacturers. This is analogous to the creation of excess capacity, as both companies
23 have continuous supplies of raw materials and can increase or decrease the output of finished
24 goods without the concern of covering fixed costs.

25 **B. Economic Data on Pricing and Supply**

26 92. GPU pricing during the Class Period has not behaved as would be expected in a
27 competitive market.
28

1 102. In formulating and carrying out the alleged agreement, understanding, and
2 conspiracy, Defendants and their co-conspirators did those things that they combined and
3 conspired to do, including, but not limited to the acts, practices, and course of conduct set forth
4 above, and the following, among others:

- 5 a. Participated in meetings and conversations to discuss GPU prices;
- 6 b. Agreed to limit competition in innovation by agreeing upon the
7 timing of new product releases;
- 8 c. Agreed to manipulate prices and supply of GPUs in a manner that
9 deprived purchasers of GPUs of free and open competition;
- 10 d. Issued price announcements and price quotations in accordance
11 with the agreements reached; and
- 12 e. Sold GPUs to customers in the United States at non-competitive
13 prices.

14 103. The combination and conspiracy alleged herein has had the following effects,
15 among others:

- 16 a. Price competition in the sale of GPUs has been restrained,
17 suppressed and/or eliminated in the United States;
- 18 b. Innovation competition in the sale of GPUs has been restrained,
19 suppressed and/or eliminated in the United States;
- 20 c. Prices for GPUs sold by Defendants and their co-conspirators have
21 been fixed, raised, maintained, and stabilized at artificially high, non-competitive
22 levels throughout the United States; and
- 23 d. Those that purchased GPUs from Defendants have been deprived
24 the benefits of free and open competition.

25 104. As a direct result of the unlawful conduct of Defendants and their co-conspirators
26 in furtherance of their continuing contract, combination, and conspiracy, Plaintiffs have been
27 injured and will continue to be injured in their business and property by paying more for GPUs
28

1 purchased directly from Defendants and their co-conspirators than they would have paid and will
2 pay in the absence of the combination and conspiracy.

3 105. These violations are continuing and will continue unless enjoined by this Court.

4 106. Pursuant to Section 16 of the Clayton Act, 15 U.S.C. § 26, Plaintiffs and the Class
5 seek the issuance of an injunction against Defendants, preventing and restraining the violations
6 alleged herein.

7 107. As a result of Defendants' and their co-conspirators' violation of Section 1 of the
8 Sherman Act, 15 U.S.C. §1, Plaintiff seeks treble damages and costs of suit, including reasonable
9 attorneys' fees, pursuant to 15 U.S.C. § 15.

10 **PRAYER FOR RELIEF**

11 WHEREFORE, Plaintiffs pray as follows:

12 A. That the Court determine that this action may be maintained as a class action under
13 Rules 23(a), 23(b)(2) and 23(b)(3) of the Federal Rules of Civil Procedure;

14 B. That the Court adjudge and decree that the unlawful conduct, contract,
15 combination, and conspiracy alleged herein constitutes a violation of Section 1 of the Sherman
16 Act, as alleged herein;

17 C. That Plaintiffs and the Class recover damages, as provided by the federal antitrust
18 laws, and that a joint and several judgment in favor of Plaintiffs and the Class be entered against
19 Defendants in an amount to be trebled in accordance with such laws;

20 D. That Defendants, their co-conspirators, successors, transferees, assigns, parents,
21 subsidiaries, affiliates, and the officers, directors, partners, agents and employees thereof, and all
22 other persons acting or claiming to act on behalf of Defendants, or in concert with them, be
23 permanently enjoined and restrained from, in any manner, directly or indirectly, continuing,
24 maintaining or renewing the combinations, conspiracy, agreement, understanding, or concert of
25 action, or adopting or following any practice, plan, program, or design having a similar purpose
26 or effect in restraining competition;

27 E. That the Court award Plaintiffs and the Class they represent pre-judgment and
28 post-judgment interest as permitted by law;

1 F. That Plaintiffs and the members of the Class recover their costs of suit, including
2 reasonable attorneys' fees as provided by law; and

3 G. That the Court award Plaintiffs and the Class they represent such other and further
4 relief as may be necessary and appropriate.

5 **JURY TRIAL DEMANDED**

6 Pursuant to Fed. R. Civ. P. 38(b), Plaintiffs demand a trial by jury of all of the claims
7 asserted in this Complaint so triable.

8
9 Dated this 14th day of June, 2007.

Respectfully submitted,

11 /s/ William A. Isaacson

12 William A. Isaacson (*pro hac vice*)
13 BOIES, SCHILLER & FLEXNER LLP
14 5301 Wisconsin Avenue, NW, Suite 800
15 Washington, DC 20015
16 Telephone: 202-237-2727
17 Facsimile: 202-237-6131
18 wisaacson@bsflp.com

19 John F. Cove, Jr. (CA Bar No. 212213)
20 David W. Shapiro (CA Bar No. 219265)
21 Kevin J. Barry (CA Bar No. 229748)
22 BOIES, SCHILLER & FLEXNER LLP
23 1999 Harrison Street, Suite 900
24 Oakland, CA 94612
25 Telephone: 510-874-1000
26 Facsimile: 510-874-1460
27 jcove@bsflp.com
28 kbarry@bsflp.com

Philip J. Iovieno (*pro hac vice*)
BOIES, SCHILLER & FLEXNER LLP
10 North Pearl Street, 4th Floor
Albany, NY 12207
Telephone: 518-434-0600
Facsimile: 518-434-0665
piovieno@bsflp.com

*Attorneys for Plaintiff Jordan Walker
Interim Class Counsel For Direct Purchaser
Plaintiffs*

OF COUNSEL

Nicholas Gravante
BOIES, SCHILLER & FLEXNER LLP
575 Lexington Avenue, 7th Floor
New York, NY 94612
Telephone: 212-446-2300
Facsimile: 212-446-2350
ngravante@bsfllp.com

Stuart H. Singer
BOIES, SCHILLER & FLEXNER LLP
100 South East Second Street, Suite 2800
Miami, FL 33131
Telephone: 305-539-8400
Facsimile: 305-539-1307
ssinger@bsfllp.com

*Attorneys for Plaintiff Jordan Walker
Interim Class Counsel For Direct Purchaser
Plaintiffs*

Joseph T. Piscitello
LAW OFFICES OF JOSEPH T.
PISCITELLO
234 Delancey Street
Philadelphia, PA 19106
Telephone: 215-636-9988
Facsimile: 215-636-9987
jtplaw@jtpllegal.com

Attorneys for Plaintiff Walker

Eugene A. Spector
Jeffrey J. Corrigan
Jay S. Cohen
SPECTOR, ROSEMAN & KODROFF, P.C.
1818 Market Street, Suite 2500
Philadelphia, PA 19103
Telephone: 215-496-0300
Facsimile: 215-496-6611
espector@srk-law.com
jcorrigan@srk-law.com
jcohen@srk-law.com

Attorneys for Plaintiff Bensignor

Reginald Terrell
THE TERRELL LAW GROUP
223 25th Street
Richmond, CA 94804
Telephone: 510-237-9700
Facsimile: 510-237-4616

Donald Amamgbo
AMAMGBO & ASSOCIATES
7901 Oakport Street, Suite 4900
Oakland, CA 94621
Telephone: 510-615-6000
Facsimile: 510-615-6025

Judith Blackwell
BLACKWELL & BLACKWELL
584 Valla Vista Avenue
Oakland, CA 94610
Telephone: 510-689-8888
Facsimile: 510-835-2848

Lawrence D. Nwajei
LAW OFFICES OF NWAJEI &
COMPANY
4221 Wilshire Blvd., Suite 392
Los Angeles, CA 90010
Telephone: 323-549-0201
Facsimile: 323-549-0211

Attorneys for Plaintiff Williams

Attestation of Filer

The signatory to this document is William A. Isaacson, and I have obtained his concurrence to file this document on his behalf.

Dated: June 14, 2007

By: /s/ Kevin J. Barry

Kevin J. Barry

BOIES, SCHILLER & FLEXNER LLP

1999 Harrison St., Suite 900

Oakland, CA 94612

Telephone: (510) 874-1000

Facsimile: (510) 874-1460

kbarry@bsflp.com